

## SEQUENCE LISTING

<110> Mitchell, William M.  
Stratton, Charles W.

<120> IDENTIFICATION OF ANTIGENIC PEPTIDE  
SEQUENCES

<130> VDB98-01

<140> 09/025,596  
<141> 1998-02-18

<150> 08/911,593  
<151> 1997-08-14

<150> 60/023,921  
<151> 1996-08-14

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<170> FastSEQ for Windows Version 3.0

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&lt;400&gt; 4

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&lt;210&gt; 5

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 5

Pro Ser Glu Thr Ser Thr Thr Glu Lys  
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&lt;210&gt; 6

&lt;211&gt; 8

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 6

Lys Pro Ala Asp Gly Ser Asp Val  
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&lt;210&gt; 7

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 7

Asn Gly Gln Lys Lys Pro Leu Tyr Leu Tyr Gly  
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&lt;210&gt; 8

&lt;211&gt; 19

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 8

Ser Asp Val Pro Asn Pro Gly Thr Thr Val Gly Gly Ser Lys Gln Gln  
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Gly Ser Ser

&lt;210&gt; 9

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 9

His Met Phe Asn Thr Glu Asn Pro Asp Ser Gln Ala Ala Gln Gln  
1 5 10 15

&lt;210&gt; 10

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

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<213> Chlamydia pneumoniae

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1 5 10 15

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<213> Chlamydia pneumoniae

<400> 13  
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Glu Asp His Ile Glu Glu  
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<213> Chlamydia pneumoniae

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<210> 15  
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<212> PRT  
<213> Chlamydia pneumoniae

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1 5

<210> 17  
<211> 14  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 17  
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1 5 10

<210> 18  
<211> 16  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 18  
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1 5 10 15

<210> 19  
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1 5 10 15

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<213> Chlamydia pneumoniae

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<210> 24  
<211> 14  
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<210> 25  
<211> 11  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 25  
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1 5 10

<210> 26  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 26  
Asp Val Thr Thr Ser Glu Tyr Glu Lys Glu Lys  
1 5 10

<210> 27  
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<212> PRT  
<213> Chlamydia pneumoniae

<400> 27  
Asp Asp Lys Ser Ser Ser Ala  
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<210> 28  
<211> 15  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 28

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1 5 10 15

<210> 29  
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<212> PRT  
<213> Chlamydia pneumoniae

Ser Ser Tyr Phe Ser Thr Asn Pro Glu Thr Gln Glu  
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<210> 30  
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<212> PRT  
<213> Chlamydia pneumoniae

Glu Lys Val Gly Lys Asn Gly Ser Ile Thr Val Glu Ala Asp Lys  
1 5 10 15

<210> 31  
<211> 15  
<212> PRT  
<213> Chlamydia pneumoniae

Ser Lys Thr Ala Asp Lys Ala Gly Asp Gly Thr Thr Ala Thr  
1 5 10 15

<210> 32  
<211> 10  
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<213> Chlamydia pneumoniae

Lys Arg Glu Glu Glu Ala Thr Ala Arg  
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<210> 33  
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<212> PRT  
<213> Mouse

Glu Arg Ser Ala Ala Glu Thr Val Thr Lys  
1 5 10

<210> 34  
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<212> PRT  
<213> Chlamydia pneumoniae

<400> 34

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Asp Thr Ala Lys Lys Lys Gln Asp Arg Ala Glu  
1 5 10

<210> 35  
<211> 11  
<212> PRT  
<213> Mouse

<400> 35  
Glu Lys Ser Gln Gly Lys Val Leu Gln Ala Thr  
1 5 10

<210> 36  
<211> 10  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 36  
Gly Thr Gly Lys Arg Thr Asp Asp Gly Thr  
1 5 10

<210> 37  
<211> 10  
<212> PRT  
<213> Mouse

<400> 37  
Gly Ser Gly Gly Lys Gly Lys Ser Gly Glu  
1 5 10

<210> 38  
<211> 25  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 38  
Arg Arg Asn Lys Gln Pro Val Glu Gln Lys Ser Arg Gly Ala Phe Cys  
1 5 10 15  
Asp Lys Glu Phe Tyr Pro Cys Glu Glu  
20 25

<210> 39  
<211> 19  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 39  
Asp Met Arg Pro Gly Asp Lys Lys Val Phe Thr Val Glu Phe Cys Pro  
1 5 10 15  
Gln Arg Arg

<210> 40  
<211> 19  
<212> PRT

<213> Chlamydia pneumoniae

<400> 40

Ser Ser Asp Pro Glu Thr Thr Pro Thr Ser Asp Gly Lys Val Trp Lys  
1 5 10 15  
Ile Asp Arg

<210> 41

<211> 20

<212> PRT

<213> Chlamydia pneumoniae

<400> 41

Thr Ser Glu Ser Asn Cys Gly Thr Cys Thr Ser Cys Ala Glu Thr Thr  
1 5 10 15  
Thr His Trp Lys  
20

<210> 42

<211> 11

<212> PRT

<213> Chlamydia pneumoniae

<400> 42

Lys Leu Gly Ser Lys Glu Ser Val Glu Phe Ser  
1 5 10

<210> 43

<211> 16

<212> PRT

<213> Chlamydia pneumoniae

<400> 43

Thr Val Tyr Arg Ile Cys Val Thr Asn Arg Gly Ser Ala Glu Asp Thr  
1 5 10 15

<210> 44

<211> 11

<212> PRT

<213> Chlamydia pneumoniae

<400> 44

Glu Tyr Ser Ile Ser Val Ser Asn Pro Gly Asp  
1 5 10

<210> 45

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 45

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
1 5 10 15

Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
     20                 25                 30  
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys  
     35                 40                 45  
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr  
     50                 55                 60  
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Gln Thr Asp Val Asn Lys  
     65                 70                 75                 80  
 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Ala Thr Gly Asn Ala Ala  
     85                 90                 95  
 Ala Pro Ser Thr  
     100

<210> 46  
 <211> 100  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 46  
 Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
     1              5                 10                 15  
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
     20                 25                 30  
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys  
     35                 40                 45  
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr  
     50                 55                 60  
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
     65                 70                 75                 80  
 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Thr Gly Asn Ala Ala  
     85                 90                 95  
 Ala Pro Ser Thr  
     100

<210> 47  
 <211> 100  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 47  
 Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
     1              5                 10                 15  
 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
     20                 25                 30  
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys  
     35                 40                 45  
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr  
     50                 55                 60  
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Glu Thr Asp Val Asn Lys  
     65                 70                 75                 80  
 Glu Phe His Met Gly Ala Lys Pro Thr Thr Asp Thr Gly Asn Ser Ala  
     85                 90                 95  
 Ala Pro Leu Thr  
     100

&lt;210&gt; 48

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 48

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1					5					10					15
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
					20				25					30	
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
					35			40					45		
Asp	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Ile	Met	Gly	Tyr
					50			55					60		
Tyr	Gly	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
					65			70			75			80	
Glu	Phe	His	Met	Gly	Asp	Lys	Pro	Thr	Ser	Thr	Thr	Gly	Asn	Ala	Thr
					85			90					95		
Ala	Pro	Thr	Thr												
					100										

&lt;210&gt; 49

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 49

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1					5					10					15
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
					20				25					30	
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
					35			40					45		
Asp	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Ile	Met	Gly	Tyr
					50			55					60		
Tyr	Gly	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
					65			70			75			80	
Glu	Phe	His	Met	Gly	Asp	Lys	Pro	Thr	Ala	Thr	Thr	Gly	Asn	Ala	Ala
					85			90					95		
Ala	Pro	Ser	Thr												
					100										

&lt;210&gt; 50

&lt;211&gt; 101

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 50

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1					5					10					15
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
					20				25					30	
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
					35			40					45		

Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr  
 50 55 60  
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
 65 70 75 80  
 Glu Phe Lys Met Gly Glu Ala Leu Ala Gly Ser Thr Gly Asn Thr Thr  
 85 90 95  
 Ser Thr Leu Ser Lys  
 100

<210> 51  
<211> 103  
<212> PRT  
<213> Chlamydia trachomatis

<400> 51  
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
 1 5 10 15  
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
 20 25 30  
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Asp Pro Cys  
 35 40 45  
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr  
 50 55 60  
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
 65 70 75 80  
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Ser Asp Val Ala Ala Gly  
 85 90 95  
Leu Gln Asn Asp Pro Thr Ile  
 100

<210> 52  
<211> 102  
<212> PRT  
<213> Chlamydia trachomatis

<400> 52  
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
 1 5 10 15  
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
 20 25 30  
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Asp Pro Cys  
 35 40 45  
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr  
 50 55 60  
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
 65 70 75 80  
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Arg Asp Val Ala Gly Leu  
 85 90 95  
Glu Lys Asp Pro Val Val  
 100

<210> 53  
<211> 97  
<212> PRT  
<213> Chlamydia trachomatis

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<400> 53

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
1 5 10 15  
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
20 25 30  
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys  
35 40 45  
Ala Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr  
50 55 60  
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
65 70 75 80  
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Asn Asp Ala Ala Pro Lys  
85 90 95  
Thr

<210> 54

<211> 102

<212> PRT

<213> Chlamydia trachomatis

<400> 54

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser  
1 5 10 15  
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
20 25 30  
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys  
35 40 45  
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr  
50 55 60  
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
65 70 75 80  
Glu Phe Gln Met Gly Ala Glu Pro Thr Thr Ser Asp Thr Ala Gly Leu  
85 90 95  
Ser Asn Asp Pro Thr Thr  
100

<210> 55

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 55

Met Lys Lys Leu Leu Lys Ser Val Ala Val Phe Val Ala Gly Ser Ser  
1 5 10 15  
Ala Ser Ser Leu His Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser  
20 25 30  
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys  
35 40 45  
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Leu  
50 55 60  
Tyr Leu Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys  
65 70 75 80  
Gln Phe Glu Met Gly Ala Ala Pro Thr Gly Asp Ala Asp Leu Thr Thr  
85 90 95

Ala Pro Thr Pro  
100

<210> 56  
<211> 99  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 56

Met Lys Lys Leu Leu Lys Ala Val Leu Ala Phe Ala Phe Ala Gly Ser  
1 5 10 15  
Val Gly Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Ser Asp Ser  
20 25 30  
Leu Leu Ile Asp Gly Thr Ile Trp Glu Gly Ala Ala Gly Asp Pro Cys  
35 40 45  
Asp Pro Ala Thr Thr Trp Cys Asp Ala Ile Ser Leu Arg Ala Gly Phe  
50 55 60  
Tyr Gly Asp Phe Val Tyr Asp Ile Val Leu Lys Val Asp Ala Pro Lys  
65 70 75 80  
Thr Phe Ser Met Gly Ala Lys Pro Thr Thr Gly Asn Gly Ser Ala  
85 90 95  
Ala Ala Asn

<210> 57  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 57

Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala  
1 5 10 15  
Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
20 25 30  
Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly  
35 40 45  
Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn  
50 55 60  
His Ala Thr Val Ser Asp Ser Lys Leu Val Pro Asn Met Ser Leu Asp  
65 70 75 80  
Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Ala  
85 90 95  
Gly Ala Arg Ala  
100

<210> 58  
<211> 65  
<212> PRT  
<213> Chlamydia trachomatis

<400> 58

Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala  
1 5 10 15  
Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
20 25 30

Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly Tyr Leu Lys Gly  
 35                  40                  45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asn Asn Glu Asn  
 50                  55                  60  
 Gln  
 65

<210> 59  
 <211> 134  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 59

Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala  
 1                  5                  10                  15  
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
 20                  25                  30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly  
 35                  40                  45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn  
 50                  55                  60  
 Gln Lys Thr Val Lys Ala Glu Ser Val Pro Asn Met Ser Phe Asp Gln  
 65                  70                  75                  80  
 Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val Gly  
 85                  90                  95  
 Ala Arg Ala Thr Lys Val Ser Asn Gly Thr Phe Val Pro Asn Met Ser  
 100                105                110  
 Leu Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ala Trp  
 115                120                125  
 Ser Val Gly Ala Arg Ala  
 130

<210> 60  
 <211> 99  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 60

Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala  
 1                  5                  10                  15  
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
 20                  25                  30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly Tyr Leu Lys Gly  
 35                  40                  45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn  
 50                  55                  60  
 Gln Ser Thr Val Lys Thr Asn Ser Val Pro Asn Met Ser Leu Asp Gln  
 65                  70                  75                  80  
 Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ser Trp Ser Val Gly  
 85                  90                  95  
 Ala Arg Ala

<210> 61  
 <211> 99

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 61

Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala  
 1               5               10               15  
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
 20               25               30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly  
 35               40               45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn  
 50               55               60  
 Gln Ser Thr Val Lys Lys Asp Ala Val Pro Asn Met Ser Phe Asp Gln  
 65               70               75               80  
 Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val Gly  
 85               90               95  
 Ala Arg Ala

&lt;210&gt; 62

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 62

Leu Val Glu Arg Thr Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala  
 1               5               10               15  
 Glu Met Phe Thr Asn Cys Ala Tyr Thr Ala Leu Ile Asn Trp Asp Arg  
 20               25               30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly  
 35               40               45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Gly Val Asn  
 50               55               60  
 Ala Thr Lys Pro Ala Ala Asp Ser Ile Pro Asn Val Gln Leu Asn Gln  
 65               70               75               80  
 Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val Gly  
 85               90               95  
 Ala Arg Ala

&lt;210&gt; 63

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 63

Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala  
 1               5               10               15  
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
 20               25               30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly  
 35               40               45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Gln  
 50               55               60

Ser Ser Ser Phe Asn Thr Ala Lys Leu Ile Pro Asn Thr Ala Leu Asp  
 65                   70                   75                   80  
 Gln Ser Val Val Glu Leu Tyr Ile Asn Thr Thr Phe Ala Trp Ser Val  
       85                   90                   95  
 Gly Ala Arg Ala  
       100

<210> 64  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 64  
Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala  
 1                   5                   10                   15  
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
       20                   25                   30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly  
       35                   40                   45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Gln  
       50                   55                   60  
 Ser Ser Gly Phe Asp Thr Ala Asn Ile Val Pro Asn Thr Ala Leu Asn  
 65                   70                   75                   80  
 Gln Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val  
       85                   90                   95  
 Gly Ala Arg Ala  
       100

<210> 65  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 65  
Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala  
 1                   5                   10                   15  
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
       20                   25                   30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly  
       35                   40                   45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Lys  
       50                   55                   60  
 Ser Ser Asp Phe Asn Thr Ala Lys Leu Val Pro Asn Ile Ala Leu Asn  
 65                   70                   75                   80  
 Arg Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val  
       85                   90                   95  
 Gly Ala Arg Ala  
       100

<210> 66  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 66

Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala  
 1 5 10 15  
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg  
 20 25 30  
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly  
 35 40 45  
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Gln  
 50 55 60  
 Ser Thr Asn Phe Asn Thr Ala Lys Leu Val Pro Asn Thr Ala Leu Asn  
 65 70 75 80  
 Gln Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val  
 85 90 95  
 Gly Ala Arg Ala  
 100

<210> 67  
<211> 96  
<212> PRT  
<213> Chlamydia trachomatis

<400> 67  
Ala Ser Arg Glu Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala Glu  
 1 5 10 15  
 Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg Phe  
 20 25 30  
 Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly Asn  
 35 40 45  
 Ser Ala Ala Phe Asn Leu Val Phe Gly Arg Asp Glu Thr Ala  
 50 55 60  
 Val Ala Ala Asp Asp Ile Pro Asn Val Ser Leu Ser Gln Ala Val Val  
 65 70 75 80  
 Glu Leu Tyr Thr Asp Thr Ala Phe Ala Trp Ser Val Gly Ala Arg Ala  
 85 90 95

<210> 68  
<211> 100  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 68  
Tyr Thr Thr Ala Val Asp Arg Pro Asn Pro Ala Tyr Asn Lys His Leu  
 1 5 10 15  
 His Asp Ala Glu Trp Phe Thr Asn Ala Gly Ile Phe Ala Leu Ile Asn  
 20 25 30  
 Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Asn Gly Ile  
 35 40 45  
 Arg Lys Gly Asn Ser Thr Ala Phe Asn Leu Val Gly Leu Phe Gly Val  
 50 55 60  
 Lys Gly Thr Thr Val Asn Ala Asn Glu Leu Pro Asn Val Ser Leu Ser  
 65 70 75 80  
 Asn Gly Val Val Glu Leu Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val  
 85 90 95  
 Gly Ala Arg Ala  
 100

&lt;210&gt; 69

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 69

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1               5               10               15  
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20               25               30  
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe  
 35               40               45  
 Pro Leu Asp Leu Lys Ala Gly Thr Asp Gly Val Thr Gly Thr Lys Asp  
 50               55               60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65               70               75               80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
 85               90               95  
 Ser Phe Asp Ala  
 100

&lt;210&gt; 70

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 70

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1               5               10               15  
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20               25               30  
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Leu  
 35               40               45  
 Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp  
 50               55               60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65               70               75               80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
 85               90               95  
 Ser Phe Asp Ala  
 100

&lt;210&gt; 71

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 71

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1               5               10               15  
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20               25               30  
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Phe  
 35               40               45

Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp  
 50 55 60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65 70 75 80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
 85 90 95  
 Ser Phe Asp Ala  
 100

<210> 72  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 72  
Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1 5 10 15  
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20 25 30  
Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe  
 35 40 45  
Pro Leu Ala Leu Ile Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp  
 50 55 60  
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65 70 75 80  
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
 85 90 95  
Ser Phe Asp Ala  
 100

<210> 73  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 73  
Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1 5 10 15  
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20 25 30  
Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Phe  
 35 40 45  
Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp  
 50 55 60  
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65 70 75 80  
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
 85 90 95  
Ser Phe Asp Ala  
 100

<210> 74  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

&lt;400&gt; 74

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1 5 10 15  
 Ala Gln Ser Lys Pro Lys Ile Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20 25 30  
 Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu Phe  
 35 40 45  
 Pro Leu Asp Leu Thr Ala Gly Thr Asp Ala Ala Thr Gly Thr Lys Asp  
 50 55 60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ser Leu Ser Tyr  
 65 70 75 80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
 85 90 95  
 Ser Phe Asp Ser  
 100

&lt;210&gt; 75

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 75

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1 5 10 15  
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20 25 30  
 Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe  
 35 40 45  
 Pro Leu Asn Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp  
 50 55 60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65 70 75 80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val  
 85 90 95  
 Ser Phe Asp Ala  
 100

&lt;210&gt; 76

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 76

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
 1 5 10 15  
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
 20 25 30  
 Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe  
 35 40 45  
 Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp  
 50 55 60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
 65 70 75 80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val  
 85 90 95

Ser Phe Asp Ala  
100

<210> 77  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 77  
Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
1 5 10 15  
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
20 25 30  
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe  
35 40 45  
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp  
50 55 60  
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
65 70 75 80  
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val  
85 90 95  
Ser Phe Asp Ala  
100

<210> 78  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 78  
Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
1 5 10 15  
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asp Ala  
20 25 30  
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe  
35 40 45  
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp  
50 55 60  
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
65 70 75 80  
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val  
85 90 95  
Ser Phe Asp Ala  
100

<210> 79  
<211> 100  
<212> PRT  
<213> Chlamydia trachomatis

<400> 79  
Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr  
1 5 10 15  
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala  
20 25 30

Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe  
     35                 40                 45  
 Pro Leu Asn Ile Lys Ala Gly Thr Val Ser Ala Thr Asp Thr Lys Asp  
     50                 55                 60  
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr  
     65                 70                 75                 80  
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala  
     85                 90                 95  
 Ser Phe Asp Ala  
     100

<210> 80  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 80

Gly Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Glu Ser Phe Gln Tyr  
     1              5                 10                 15  
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val  
     20             25                 30  
 Ser Gln Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe  
     35             40                 45  
 Pro Leu Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser  
     50             55                 60  
 Ala Thr Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr  
     65             70                 75                 80  
 Arg Leu Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala  
     85             90                 95  
 Thr Phe Asp Ala  
     100

<210> 81  
 <211> 94  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 81

Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Thr Val Phe Asp  
     1             5                 10                 15  
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala  
     20             25                 30  
 Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln  
     35             40                 45  
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr  
     50             55                 60  
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu  
     65             70                 75                 80  
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe  
     85             90

<210> 82  
 <211> 92  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 82  
Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Glu Thr Ile Phe Asp  
1 5 10 15  
Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Thr  
20 25 30  
Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln  
35 40 45  
Leu Asn Met Lys Ser Arg Lys Cys Gly Ile Ala Val Gly Thr Thr Ile  
50 55 60  
Val Asp Ala Asp Lys Tyr Ala Ile Thr Val Glu Thr Arg Leu Ile Asp  
65 70 75 80  
Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe  
85 90

<210> 83  
<211> 94  
<212> PRT  
<213> Chlamydia trachomatis

<400> 83  
Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Ala Ile Phe Asp  
1 5 10 15  
Thr Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Thr  
20 25 30  
Gly Thr Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln  
35 40 45  
Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr  
50 55 60  
Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu  
65 70 75 80  
Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe  
85 90

<210> 84  
<211> 94  
<212> PRT  
<213> Chlamydia trachomatis

<400> 84  
Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Ala Ile Phe Asp  
1 5 10 15  
Thr Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala  
20 25 30  
Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln  
35 40 45  
Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr  
50 55 60  
Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu  
65 70 75 80  
Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe  
85 90

<210> 85  
<211> 94  
<212> PRT

<213> Chlamydia trachomatis

<400> 85

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Thr	Ala	Ile	Phe	Asp
1															15
Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Glu	Lys	Ala	
20															30
Asn	Ala	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
35															45
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
50															55
															60
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
65															80
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
85															
90															

<210> 86

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 86

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Arg	Leu	Val	Thr	Pro	Val	Val	Asp
1															15
Ile	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Cys	Asp	Ser	Lys	Ala
20															30
Gly	Asn	Thr	Glu	Gly	Gln	Ile	Ser	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
35															45
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
50															60
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
65															80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
85															
90															
95															

<210> 87

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 87

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Ile	Leu	Asp
1															15
Val	Thr	Thr	Leu	Asn	Arg	Thr	Thr	Ala	Gly	Lys	Gly	Ser	Val	Val	Ser
20															30
Ala	Gly	Thr	Asp	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
35															45
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
50															60
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Ala	Arg
65															80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
85															
90															
95															

<210> 88

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 88

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Lys	Pro	Val	Leu	Asp
1				5				10					15		
Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Lys	Gly	Thr	Val	Val	Ser	
		20					25				30				
Ser	Ala	Glu	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
	35					40				45					
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
	50					55				60					
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
	65					70			75			80			
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
						85			90						

&lt;210&gt; 89

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 89

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Ile	Leu	Asp
1				5				10					15		
Val	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Lys	Gly	Thr	Val	Val	Ala
			20				25				30				
Ser	Gly	Ser	Asp	Asn	Asp	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
	35					40				45					
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
	50					55				60					
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
	65					70			75			80			
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg		
						85			90						

&lt;210&gt; 90

&lt;211&gt; 95

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 90

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Val	Leu	Asp
1				5				10					15		
Val	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Lys	Ser	Val	Val	Ala	
			20				25				30				
Ser	Gly	Ser	Glu	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
	35					40				45					
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
	50					55				60					
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
	65					70			75			80			
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
						85			90			95			

&lt;210&gt; 91

&lt;211&gt; 91

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 91

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Glu	Thr	Ser	Ile	Leu	Lys
1															15
Met	Thr	Thr	Trp	Asn	Pro	Thr	Ile	Ser	Gly	Ser	Gly	Ile	Asp	Val	Asp
			20					25						30	
Thr	Lys	Ile	Thr	Asp	Thr	Leu	Gln	Ile	Val	Ser	Leu	Gln	Leu	Asn	Lys
	35						40						45		
Met	Lys	Ser	Arg	Lys	Ser	Cys	Leu	Ile	Ala	Ile	Gly	Thr	Thr	Ile	Val
	50					55					60				
Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu	Ile	Asp	Glu
	65					70			75					80	
Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe					
						85		90							

&lt;210&gt; 92

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 92

Asp	Asn	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Pro	Thr	Ala	Val	Leu	Asn
1															15
Leu	Thr	Ala	Trp	Asn	Pro	Ser	Leu	Leu	Gly	Asn	Ala	Thr	Ala	Leu	Ser
			20					25					30		
Thr	Thr	Asp	Ser	Phe	Ser	Asp	Phe	Met	Gln	Ile	Val	Ser	Cys	Gln	Ile
		35				40						45			
Asn	Lys	Phe	Lys	Ser	Arg	Lys	Ala	Cys	Val	Thr	Ala	Val	Ala	Thr	Leu
	50					55					60				
Ile	Val	Asp	Ala	Asp	Lys	Trp	Ser	Leu	Thr	Ala	Glu	Ala	Arg	Leu	Asn
	65					70			75				80		
Asp	Glu	Arg	Ala	Ala	His	Ser	Gly	Ala	Gln	Phe	Arg	Phe			
						85		90							

&lt;210&gt; 93

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 93

Cys	Thr	Gly	Ser	Ala	Ala	Ala	Asn	Tyr	Thr	Ala	Val	Asp	Arg	Pro
1														15
Asn								5						

&lt;210&gt; 94

&lt;211&gt; 18

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 94

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&lt;213&gt; Chlamydia psitacci

&lt;400&gt; 100

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&lt;210&gt; 101

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 101

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&lt;210&gt; 102

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 102

Cys Gln Ile Asn Lys Met Lys Ser Arg Phe Ala Cys Gly  
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&lt;210&gt; 103

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 103

Cys Gln Leu Asn Lys Met Lys Ser Arg Lys Ala Cys Gly  
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&lt;210&gt; 104

&lt;211&gt; 13

&lt;212&gt; PRT

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&lt;400&gt; 104

Cys Gln Ile Asn Lys Phe Lys Ser Arg Phe Ala Cys Gly  
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&lt;210&gt; 105

&lt;211&gt; 6

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&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 105

Arg Lys Lys Glu Arg Ser  
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